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MULTIMEDIA MESSAGE CONTENT ADAPTATION

TECHNICAL FIELD

This invention relates to mobile communications and, more particularly, to adapting messaging content between different types of mobile terminal stations with minimal need for signaling.

BACKGROUND OF THE INVENTION

Mobile telephone systems are evolving beyond the known voice communications. For instance, one GSM operator offers a service where a short message can be sent to a dedicated server, requesting the server to send a greeting card via surface mail to the recipient. The user with a PC accesses a web page where the available postcards are listed and chooses one of the cards. Each card has a unique ID. The user writes a short message using his GSM cellular phone containing fields such as card ID, name of recipient, address of recipient, and greeting. He then sends the short message to a dedicated server. Upon receipt of the message, the server sends the requesting cellular phone a confirmation (SMS) message if the message was acceptable and a charge is added to the user's phone bill. Otherwise, an error SMS message is sent back to the cellular phone without any charge being registered. If everything was acceptable, then the mailman carries a real, physical postcard containing the greetings to the recipient.

New services are evolving on the Internet as well. A popular new service provided on the internet is to send yourself, or anyone you know, a virtual greeting card. The recipient will receive an e-mail containing a URL pointing to the place where he can fetch his virtual greeting card or multimedia file. The notification is similar every time, simply containing the URL and perhaps a password or other identification information. Such pages are becoming ubiquitous.

An electronic greeting card store is known for mobile communications from U.S. Pat. No. 5,426,594 to Wright et al. Wright et al show an electronic greeting card communication system that includes a first personal communicator, an electronic mail server, and a second personal communicator. The first communicator accepts off-line selection of an electronic greeting card from a user, and then transmits a request message corresponding to the off-line-selection. The electronic mail server receives the request message and then wirelessly transmits an electronic greeting card message to the second personal communicator. The second personal communicator selectively receives the wireless transmitted electronic greeting card message and presents it to a user.

In recent years, data services have become popular for mobile communications systems, including the very popular short messaging service (SMS) that employs underutilized bandwidth of signaling channels to allow short text messages. A new use for SMS is a picture messaging application for cellular telephones that is presently being offered by the assignee hereof for allowing users to create and download picture messages into his or her proprietary mobile telephone (e.g., Nokia 3210 GSM) and send them to another, like proprietary telephone (another Nokia 3210 or a Nokia 8210 or Nokia 8850). With a likewise proprietary messaging platform (e.g., Nokia Artus Messaging Platform), operators are able to enhance usage of Short Message Service (SMS) for their subscribers. Such a simple graphic message service provides a black-and-white picture, for instance 72x28

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pixels, along with a short greeting displayed below the picture. A maximum size of the greeting is specified, for example 120 characters.

The popularity of the internet and the coming explosion of bandwidth therein points to new multimedia services, including picture, data, text, video, as well as audio being offered in future generation mobile communication networks.

It can be foreseen that simple graphic message services for mobile communications systems will evolve into more capable image message services with. It is already possible to send a (reduced size) JPEG file with personal contact information from a Nokia 9110 communicator to another such communicator using several messages to send the information. SMS (or paging) messages are not particularly good for JPEG or multimedia files, due to their low bandwidth. Although the simple graphic message service described above can be provided with platforms similar to SMS, such an image message service evolution will eventually require more capable image message service centers (IMSC) to perform the store and forward operations. Beyond that, multimedia message services are foreseen that enable messaging with full content versatility, including images, audio, video, data and text from terminal to terminal or from terminal to internet. Instead of an IMSC, a multimedia message service center (MMSC) is foreseen.

A communication network terminal supporting a plurality of applications is known from WO 97/32439. This patent publication discloses a method for routing an inbound SMS message to an application based on the header information in the received message. Older cellular phones, and even newer ones, may not display the received message or they do not have the capability to show specially-formatted messages. Normally they will display a message to the user saying "data message, cannot display content", or similar, especially if the message contains a lot of data.

A problem with developing all of these different capabilities in parallel with an operating and evolving infrastructure is that many different types of content are being used, and users wish to be able to send their messages, regardless of type, from one phone to another, and not meet with refusal or total incapability on the part of the recipient to receive a given type of content. Although not all phones support every type of simple image, JPEG image, video, animation or the like, most phones likely have some capability. The receiving phone may, for instance, not have a graphic display or its display capabilities may be insufficient to display the image sent by the sending phone but may be able to handle SMS. Presently, images can only be sent to phones that are known to have the required image or multimedia capabilities. If an image message is sent to a phone that cannot show the image, the message is lost. The problem is how to adapt the content automatically so that it, or a part of the content, can be presented by most any phone.

DISCLOSURE OF INVENTION

An object of the present invention is to show how an image message can be adapted to the capabilities of the receiving terminal so that, even if the terminal cannot display the message fully, the message is not lost, but is adapted to the capabilities of the receiving terminal, and the user is provided with alternative means to view the content.

According to a first aspect of the invention, a method for use by a mobile station in a mobile communications system in receiving a service from an application service center, comprises the steps of the mobile station receiving a short